

Incremental encoders

Hollow shaft $\varnothing 17$ to $\varnothing 27$ mm

Resolution 2000...10000 pulses

ITD 41 A 4 Y22



ITD 41 A 4 Y22 with hollow shaft

Technical data - electrical ratings

Voltage supply	5 VDC ± 5 % 8...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	≤ 100 mA
Resolution (steps/turn)	2000...10000
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤ 300 kHz (TTL) ≤ 160 kHz (HTL)
Output signals	A, B, N + inverted
Output circuit	TTL linedriver (short-circuit-proof) HTL push-pull (short-circuit-proof)
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 55011

Features

- Encoder with hollow shaft $\varnothing 17$ -27 mm
- Resolution max. 10000 ppr
- Optical sensing
- Through-hollow shaft
- Mounting by torque support
- TTL or HTL output signals
- Cable output radial

Optional

- Cable with connector
- Extended operating temperature range

Technical data - mechanical design

Housing	$\varnothing 80$ mm
Shaft	$\varnothing 17$...27 mm hollow shaft
Mounting kit variant	50
Protection DIN EN 60529	IP 65
Operating speed	≤ 5000 rpm ≤ 3000 rpm IP 65 at $>70^\circ\text{C}$
Starting torque	≤ 0.015 Nm
Motor shaft tolerance	0.25 mm axial 0.1 mm radial
Materials	Housing: aluminium, black, powder-coated Shaft: stainless steel
Operating temperature	-20 ... $+70^\circ\text{C}$ -20 ... $+100^\circ\text{C}$
Relative humidity	90 % non-condensing
Resistance	DIN EN 60068-2-6 Vibration 10 g, 55-2000 Hz DIN EN 60068-2-27 Shock 30 g, 11 ms
Weight approx.	580 g
Connection	Cable 1 m

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Part number

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		NI	KR1			50	cULus
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Approval
cULus UL approval

Mounting kit
50 Mounting accessory kit 50

Protection
IP54 IP 54
IP65 IP 65

Hollow shaft
17 Hollow shaft $\varnothing 17$ mm
18 Hollow shaft $\varnothing 18$ mm
... ..
27 Hollow shaft $\varnothing 27$ mm

Operating temperature
S -20...+70 °C
E -20...+100 °C

Connection
KR1 Cable 1 m, radial

Output signals
NI A, A inv, B, B inv, N, N inv

Voltage supply / signals
T 5 VDC / TTL level, linedriver
H 8...30 VDC / HTL level, push pull
R 8...30 VDC / TTL level, linedriver

See part number (pulses)

Part number (pulses)

2000	2500	3600	5000
2048	3072	4096	10000

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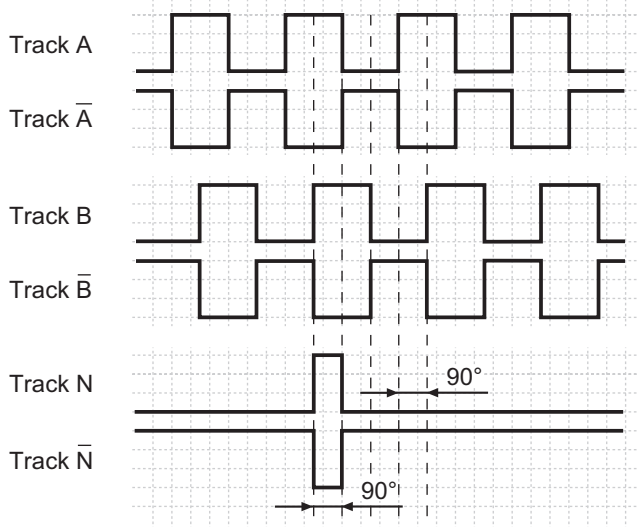
Resolution 2000...10000 pulses

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Output signals

Clockwise rotation when looking at the mounting side.

NI-Output signals



Terminal assignment

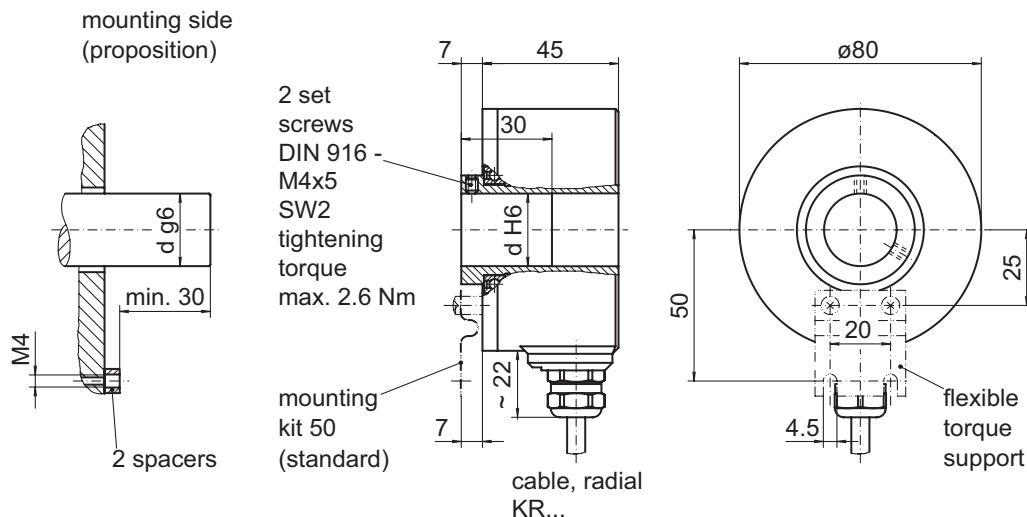
Core colour	Assignment
brown	Track A
green	Track A inv.
grey	Track B
pink	Track B inv.
red	Track N
black	Track N inv.
brown 0,5 mm ²	UB
white 0,5 mm ²	GND
blue	UB-Sense
white	GND-Sense
transparent	Shield/Housing

Trigger level

Outputs	Linedriver
Output level High	≥ 2.4 V
Output level Low	≤ 0.5 V
Load	≤ 70 mA

Outputs	Push-pull short-circuit proof
Output level High	$\geq UB - 3$ V
Output level Low	≤ 1.5 V
Load	≤ 70 mA

Dimensions



026- 5 Y22

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